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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/957,424	09/21/2001	Lee Kok Tong	CS00-198	3261
28112	7590	09/08/2004	EXAMINER	
GEORGE O. SAILE & ASSOCIATES 28 DAVIS AVENUE POUGHKEEPSIE, NY 12603			WRIGHT, WILLIAM G	
			ART UNIT	PAPER NUMBER

1754

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AC

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/957,424	TONG ET AL.	
	Examiner	Art Unit	
	William G. Wright SR.	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 7/14/04.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 16, 17 and 26-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16, 17 and 26-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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Claims 28, 29 and 31-33 are objected to under 37 CFR 1.75(c) in failing to further limit independent claims 27 and 30, respectively. Claims 28, 29 and 31-33 fail to further limit claims 27 and 30 respectively since claims 27 and 30 require that the process "consisting of" the recited steps and therefore would exclude any further steps including the steps recited in claims 28, 29 and 31-33.

Claims 28, 29 and 31-33 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

The claims are indefinite because they depend from claims 27 and 30. Claims 27 and 30 have the limitation of "consisting of" and this limitation does not permit further process steps in the dependent claims 28, 29 and 31-33. Accordingly the additional steps found in claims 28, 29 and 31-33 would be indefinite.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. § 103(c) and potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103(a).

Claims 16, 17 and 26-33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over De Santis '349.

De Santis teaches a silane gas treatment process using wet scrubbing with water. This teaching is found at column 2 line 29 et seq. The specific teaching of nitrogen being in the carrier gas is found at column 5 line 11 et seq. where the reactive gas stream is taught to be made up of nitrogen, oxygen and silane. The teaching of the formation of silicon dioxide in the form of fine particles made in the presence of water is found in column 6 line 35 et seq.

The reference does not teach the treatment of waste silane with oxygen dissolved in water. The reference forms a silica precipitate in the presence of oxygen and water. Therefore it would appear that oxygen is dissolved in the water.

The instant claimed invention is obvious from the teachings of the applied reference. The teachings of air (oxygen) in contact with water are easily noted from Figure 1. Of that Figure the No. 11 teaches contact between liquid and gas, No. 3 teaches water, No. 13 air, spent scrubbing liquid is noted at No. 7 where water, oxygen, silicon dioxide and silane are all in contact. This area No. 7 is where the last remnants of the selenium gas are reacted to ensure total reaction to the product silicon dioxide. Column 5 lines 44 et seq. is where this teaching is found. It is considered an obvious expedient available to a practitioner to use the process of Figure 1 to make the contact of oxygen, water and silane found in the instant claims. These teachings show the instant claimed invention to be obvious.

Applicants' arguments filed June 14, 2004 have been fully considered but they are not deemed to be persuasive.

The applicants argue that there is no teaching or suggestion in De Santis that the scrubbing takes place within the separation chamber 34. Applicants further argue that the scrubbing takes place within the flow of scrubbing liquid. The instant invention is further argued to not involve the extra complexity of scrubbing liquid flow with a jet pump as is disclosed in De Santis.

The applied reference teaches air (oxygen) in contact with water are found in Figure 1. This Figure 1 teaches at No. 11 contacting liquid and gas, No. 3 teaches water, No. 13 air, spent scrubbing liquid is noted at No. 7 where water, oxygen, silicon dioxide and silane are all in contact. This area No. 7 is where the last remnants of the silane gas is reacted to ensure total reaction of the product silicon dioxide. This teaching is found at column 5 line 44 et seq. of the applied reference. The contact of oxygen, water and silane as found in the instant claims is taught from Figure 1 of the applied reference. The applied reference teaches the instant claimed invention to be obvious.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William G. Wright, Sr. whose telephone number is (571) 272-1361. The examiner can normally be reached on Monday through Thursday from 6:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on (571) 272-1558. The fax phone number for the organization where this application or proceeding is assigned are (703) 872-9306 for the regular communications and (703) 872-9311 for after final communications.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either private PAIR or public PAIR. Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WGW SR.

W. G. Wright, Sr.:cdc  
September 1, 2004

  
**STANLEY S. SILVERMAN**  
**SUPERVISORY PATENT EXAMINER**  
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